Not to see poetry in the machinery of this present age, is not to see poetry in the life of the age. It is not to believe in the age.—Gerald Stanley Lee.

Honolulu Star-Bulletin

A most manifest sign of wisdom is a continual cheerfulness; such a state and condition, like things in the region above the moon, is always clear and serene.—Montaigne.

HONOLULU, TERRITORY OF HAWAII, SATURDAY, OCTOBER 21, 1916.

Mr. Motorist, What Is Definition of Power?

Expert Tells of System of Measurements Discovered By James Watt—Does Your View Agree With Those of Automobile Authority?—It is Big Factor in Motoring Today—Father of Steam Engine Coined Word Years Ago Before Auto Came

By Merle Shepard.

Without chance of exception the word horse-power takes all honors as the most abused word in the English language. It is vague to the ordinary man who is not in some line of engineering, and it is misused by those who are. It is intended to express the amount of work that a power plant will do, and very often it gives a misleading idea to all concerned; and, above all, there is a cheerful indefiniteness about it that often fits in very well with the plans of the unscrupulous, who are not above overrating the ability of their product.

What is a horse-power? Does it represent the work that an ordinary horse can do? Is it a definite measurement of power? How is the horse-power of an engine measured and determined? All these are questions which are aroused in the mind of the average individual if he stops to think of the subject at all; and the fact that he is bewildered is not beyond comprehension when the various factions involved are considered.

Watt Coined Word

James Watt, the father of the steam engine, is the man who was responsible for the word, horse-power. In seeking for some method of measuring the power and ability to perform work of his steam engines, he cast about for some unit of measurement that would be understood by every one and which would also be comparable to existing units, and, naturally, he took the horse. He experimented with a good, big London dray horse, and finally decided that he was capable of doing 33,000 foot-pounds of work in a minute, and so this amount of work he called a horse-power.

The foot pound is easily understood. If you life a weight of 1 pound to a height of 1 foot you have done a foot-pound of work. If you lift it 2 feet you have done 2 foot pounds, and if you lift 3 pounds through 6 feet you have done 18 foot pounds work.

In other words, the product of the weight and the height give the foot pounds. Or force times distance will also give the foot-pound measurement. If you exert a pressure of 10 pounds through a distance of 10 feet you will have exerted 100 foot pounds.

Watt discovered that a dray horse when not tired could do 33,000 foot pounds in 1 minute, and this unit he called a horse-power. Thus, if an engine hoists a weight of 330 pounds through a distance of 100 feet in 1 minute, it is exerting 1 horse-power.

Power of Automobiles

In automobile practise we hear engines spoken of as 30 horse-power and 40 horse-power, and we wonder what it means. It vaguely suggests to us that under the small hood of our touring car we have a dynamic piece of machienry that can do the work of 30 or 40 horses. This vague idea, according to the experiments of Watt, is nearly correct, except that, differing from the horse, the engine can keep up its power output continuously, while the horse would drop from exhaustion if they were called upon to keep up the horse-power pace for even a few hours.

To say that a car has an engine of 30 horse-power, assuming for the moment that the rating ic correct, means that this engine is capable of doing 30 times 33,000 foot-pounds of work in one minute, or 990,000 foot-pounds. That is, this engine, if harnessed in a way that would allow it to apply its full power, could lift 990 pounds through a distance of 1000 feet in one minute, or any other combination of weight and distance which, when multiolied together, would give the 990,000 in the same length of time.

The duration of the effort of the plant exerting a horse-power need not be a full minute, or it may be through days, weeks, or even years. The only condition that need hold is that the engine is working at the rate of output. The foot-pounds per second which correspond to a horse-power are naturally but 1-60 of what they would be for a minute, or 550; and for an hour they are 60 times as much as for a minute, or 1,980,000. That is, an engine which could lift a

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SAXON SIX PROVES FIT FOR MEXICAN ROUGH ROADWAYS

It took a Saxon to demonstrate to Uncle Sam's engineers that a six-cylinder motor car is fit for the grueling service of Pershing's expedition in Mexico.

Since the boys in khaki crossed the Rio Grande every motor truck supply train has been plicted by a four-cylinder motor car. The quartermaster's department refused to believe that a six-cylinder could stand the hardships of the mountain trails.

Finally it was decided to give the "six" a trial, and a Saxon motor car dealer was asked to furnish a car at his own risk as pilot for the supply train.

Saxon Six Is Pilot

The Saxon "six" was sent as pilot from Columbus, N. M., to Ojo, Frederico, a distance of 62 1-2 miles. The mud was so deep on this road that at one point it took the train nearly all day to go a distance of seven miles. The Saxon was driven with the mud pans dragging.

The bottom of the crankcase was polished bright from the rubbing of the mud. Even with this condition, no trouble was encountered with the car, and arriving at its destination it was washed and sent to the machine shop for inspection—and the citizen inspector made the report that the car was mechanically perfect and a sale was made on the spot.

Government Test Severe

The success with which this Saxon "six" survived this grueling test has led the United States government to place eight six-cylinder Saxons on trial in the last week, and every one is making good. The government demands an extended trial of every car before making its purchase. It operates on the theory that no car is worth having whose manufacturer is not willing to back its qualities against the toughest conditions which can be imposed on it.

The progress which motor car manufacturers are making in placing cars with the army should be of interest to every motorist. The qualities which can survive the army test are qualities which will carry the average motorist "there and back" with absolute surety and safety.

Prices of all bakery goods in Denver will be advanced approximately 20 per cent.

Tires Prove to Be Feature of Vaudeville Act

Will Cressy Uses Inner Tube to Startle Play Goers in One of His Playlets

What is said to be the most novel and funniest of vaudeville acts touring the country this season is the auto farce in which Will Cressy, one of the cleverest stage "rubes" in the business, takes part.

The curtain rises and discloses a beautiful lady in distress. Her auto is incapacitated with a flat front tire. Mr. Cressy, as the "rube," volunteers assistance and attaches a bottle of compressed air to inflate the tire.

So enamored does he become with the charming autoist that both forget their troubles. The inner tube commences to swell and escapes from the casing. It continues expanding, soon attaining alarming proportions. As it rises above the heads of the actors and assumes the size of a big Zeppelin, the audience becomes rocked with excitement for fear it will burst and knock the motorists helter-skelter. Warning yells come from the theater. Men stand up and shout. Women have become hysterical with laughter.

Through it all the "rube" and the lady converse, totally unconscious of their seeming danger.

Will Cressy says his act would not be nearly as successful if he did not have a tube that would swell to such large proportions. He tried every inner tube in the United States, and says that no tube stands the punishment that a Diamond tube will stand. Mr. Cressy backs up his judgment by buying 15 Diamond inner tubes a week during the theatrical season.

SEE IF BRAKES ARE DRAGGING ON CARS

After adjusting the brakes be sure that the wheels run freely. This is done by jacking up the rear wheels and turning them by hand. If the least resistance is felt and the wheel while spinning around causes a scraping sound to be heard, the brakes may be dragging. If the brakes are of fabric the trouble may sometimes be eliminated by prying the band with a screwdriver or similar tool. On a tour, feel the brake drums at intervals, and if very hot it may be assumed the brakes are dragging.

WOMAN DRIVES CAR ACROSS CONTINENT AT EXPENSE OF $70

Across the continent with a woman at the wheel for the entire distance and at an operating expense of $70, are two interesting facts of a tour just completed by Charles N. Otto and family of Los Angeles.

Mrs. Otto, an enthusiastic motorist, drove all the way. The others in the party were Otto, their children, Raymond and Ardelle, and George H. Wise, 75 years old.

Six weeks and three days were consumed in making the run to Boston, where the party checked in at the New England Kisset Kar branch.

The trip from the coast was made over the southern route—from California to Arizona, New Mexico, Colorado, Kansas, Missouri, Illinois, Indiana, Ohio, New York and thence to Boston.

AUTOISTS WANT BRIGHT COLORS

Painting, as applied to the motor car, is a broad term. The average owner believes that the operation of painting means simply the smearing of liquid color over the machine and then hanging the machine up some place to dry. Although this idea is not wholly erroneous, it is not comprehensive or all inclusive in its scope, and the result of such a procedure probably would be unhappy, to say the least.

Of course the first thing to be determined when the decision to paint has been made is the color.

This is purely a matter of personal opinion, but a few remarks on the subject may not be amiss.

A visit to any motor car paint shop will show that car owners are getting away from the stock black and blue, and are demanding the brighter colors.

Undoubtedly women are responsible for this tendency, for they usually have better judgment about color harmony than men.

If you are going to paint the car with a view to being in fashion, select colors other than dark blue or black.

Automobile Insurance Has Existed 20 Years

Expert on Insurance Tells of Early Stages of Insurance of Motor Cars—First Introduced in Great Britain 26 Years Ago—More Than 50 Companies Now Writing Insurance on Automobiles—Collision Insurance is Not Profitable in Hawaii

By STANTON WYATT.
(Manager of insurance Department of Schuman Carriage Co.)

Automobile insurance was first introduced by Great Britain as early as 1890, more than 20 years ago, when the motor car was considered nothing more than a plaything.

In 1900 automobile insurance first came into vogue in the United States when the demand for insurance covering an automobile against fire first occurred. At that time there were only a few companies that would write this class of insurance on account of the large losses that were suffered. However, after the manufacturing of motor cars passed the experimental stage the American companies realized that the danger was not so great and today there are about 70 companies now writing this class of business.

Reasons Why

There are numerous reasons why automobiles burn. In the first place, many of the automobile manufacturers do not give proper thought or consideration to the possibilities of fire when designing a car, or deciding on the location of magnetos, carburetors or gasoline tanks. They naturally have in mind the building of a motor that will operate along the lines of least resistance.

The most prolific causes for automobile fires are over-heated exhaust pipes, loose flush cock, defective circuit wires, explosion of acetylene gas generator, smoking while filling tank, defective magneto, washing with distillate, friction of brake, defective prestolyte tank, defective commutator, ignition of bucket of gasoline, back-fire into carburetor, defective tail lamp, ignition from back-fire through muffler, leak in gasoline pipe, using lamp to look for gasoline leak, passer-by throwing match near car while standing on street, sparker struck while cleaning car, gasoline running into generator too fast, cleaning spark plug with gasoline and testing before gasoline evaporates, explosion in crank case, ignition of gasoline vapor under hood. Many other causes could be given, such as allowing gasoline and oil to accumulate in the pan.

In the East and Middle West the most dangerous fire is the "garage fire," which on the Pacific coast have been comparatively few.

In the states the most serious hazard to the insurance companies is the theft feature, by reason of the fact that cars so easily lose their identity. Different bodies can easily be substituted and engine numbers easily changed. However, this hazard is greatly reduced in the islands where it is impossible to get away with a machine. It is true, however, that the theft hazard is steadily increasing here. There have been a number of machines stolen and wrecked within the last few months.

Collision insurance in the Hawaiian Islands, so far, has not proved to be profitable to the majority of companies writing this class of business on account of the large number of accidents due to several causes, such as bad roads, narrow streets and the fact that there are a large number of irresponsible drivers operating machines which are a constant danger to the property of others.

Careful Driving

When we say irresponsible drivers we do not mean to cast reflection upon the examinations required in order to secure a chauffeur's license, which we believe are rigid enough. There are so many rent machines here operated by drivers on a commission basis, who anxious to make as many loads as possible, often take chances that they would not take if they owned the machine themselves.

Liability insurance is a form of protection that every responsible automobile owner should carry, for you can never tell when some careless pedestrian or child will step out in front of your machine. Then too, there are so many bicycle riders who invariably cross from one side of the road to the other, paying no attention to anyone else. This policy protects the owner on account of personal injury caused by his automobile, and also defends him in the event that suit is brought.